

AMENDMENT

Listing of Claims:

The following listing of claims replaces all previous listings or version thereof:

1. – 3. (Canceled)

4. (Previously presented) The transduced cell of claim 30, wherein the recombinant lentivirus is further defined as incapable of reconstituting a wild-type lentivirus through recombination.

5. (Previously presented) The transduced cell of claim 4, wherein the recombinant lentivirus does not express a functional lentiviral gene.

6. (Canceled) The transduced cell of claim 30, wherein the promoter is capable of promoting expression of the transgene at a signal-to-noise ratio of between about 10 and about 200.

7. (Currently amended) The transduced cell of claim ~~[[6]]~~30, wherein the promoter is capable of promoting expression of the transgene at a signal-to-noise ratio of between about 40 and about 200.

8. (Previously presented) The transduced cell of claim 7, wherein the promoter is capable of promoting expression of the transgene at a signal-to-noise ratio of between about 150 and about 200.

9. (Currently amended) The transduced cell of claim ~~[[6]]~~30, wherein the promoter is an EF1- α promoter, a PGK promoter, a gp91phox promoter, a MHC classII promoter, a clotting Factor IX promoter, a clotting Factor V111 promoter, an insulin promoter, a PDX1 promoter, a CD11 promoter, a CD4 promoter, a CD2 promoter or a gp47 promoter.

10. (Previously presented) The transduced cell of claim 9, wherein the transgene is positioned under the control of the EF1- α promoter.
11. (Withdrawn) The vector of claim 9, wherein the transgene is positioned under the control of the PGK promoter.
12. (Previously presented) The transduced cell of claim 30, wherein the transgene is erythropoietin, an interleukin, a colony-stimulating factor, integrin α IIb β , a multidrug resistance gene, gp91phox, gp 47, an antiviral gene, a gene coding for blood coagulation factor VIII, a gene coding for blood coagulation factor IX, a T cell antigen receptor, a B cell antigen receptor, a single chain antibodies (ScFv), TNF, gamma interferon, CTLA4, B7, Melana, MAGE.
13. (Previously presented) The transduced cell of claim 12, wherein the transgene is gp91phox.
14. (Previously presented) The transduced cell of claim 12, wherein the transgene is gp 47.
15. (Previously presented) The transduced cell of claim 12, wherein the transgene is Interleukin-2.
16. (Previously presented) The transduced cell of claim 12, wherein the transgene is Interleukin-12.
17. (Previously presented) The transduced cell of claim 12, wherein the transgene is a gene coding for blood coagulation factor VIII.
18. (Previously presented) The transduced cell of claim 12, wherein the transgene is a gene coding for blood coagulation factor IX.
19. (Previously presented) The transduced cell of claim 30, further comprising a posttranscriptional regulatory sequence positioned to promote the expression of the transgene.

20. (Withdrawn) The vector of claim 19, wherein the posttranscriptional regulatory sequence is an intron positioned within the expression cassette.

21. (Withdrawn) The vector of claim 20, wherein the intron is positioned in an orientation opposite the vector genomic transcript.

22. (Previously presented) The transduced cell of claim 19, wherein the posttranscriptional regulatory sequence is a posttranscriptional regulatory element.

23. (Previously presented) The transduced cell of claim 22, wherein the posttranscriptional regulatory element is woodchuck hepatitis virus posttranscriptional regulatory element (WPRE).

24. (Withdrawn) The vector of claim 23, wherein the posttranscriptional regulatory element is hepatitis B virus posttranscriptional regulatory element (HPRE).

25. (Previously presented) The transduced cell of claim 30, wherein the LTR region has been rendered substantially transcriptionally inactive by virtue of deletions in the U3 region of the 3' LTR.

26.-29. (Canceled)

30. (Currently amended) A human hematopoietic cell transduced with a self-inactivating recombinant lentivirus, the lentivirus comprising an expression cassette comprising a transgene positioned under the control of a promoter that is ~~active to promote detectable transcription of the transgene~~ capable of promoting expression of the transgene at a signal-to-noise ratio of between about 10 and about 200 in both a human hematopoietic progenitor cell and a differentiated hematopoietic cell; and an LTR region that has reduced promoter activity relative to wild-type LTR, wherein the human hematopoietic cell is a human hematopoietic progenitor cell.

31. (Previously presented) The transduced host cell of claim 30, wherein the human hematopoietic progenitor cell is a CD34⁺ cell.

32. (Currently amended) A method for transducing a human hematopoietic stem cell comprising the steps of:

(i) _____ contacting a population of human cells that include hematopoietic stem cells *in vitro* with a lentiviral vector under conditions to effect the transduction of a human hematopoietic progenitor cell in said population by said vector, wherein the lentiviral vector is defined as a self-inactivating recombinant vector comprising:

- _____ (a) an expression cassette comprising a transgene positioned under the control of a promoter that is that is capable of promoting expression of the transgene at a signal-to-noise ratio of between about 10 and about 200 in a differentiated hematopoietic cell active to promote detectable transcription of the transgene in a human hematopoietic progenitor cell; and
- _____ (b) an LTR region that has reduced promoter activity relative to wild-type LTR; and

(ii) differentiating the transduced stem cell into a differentiated hematopoietic cell.

33. (Original) The method of claim 32, wherein the human hematopoietic stem cell population comprises CD34⁺ cells.

34. (Original) The method of claim 32, wherein the cell population is treated to stimulate cell proliferation without substantial loss of stem cell pluripotency.

35. – 37. (Canceled)

38. (Previously presented) The method of claim 32, wherein the transduced stem cell is incubated in a differentiation media.

39. (Previously presented) The method of claim 38, wherein incubated transduced stem cell is differentiated into an erythroid cell, a granulocyte, a monocyte or a dendritic cell.

40. (Previously presented) The method of claim 39, wherein the incubated transduced stem cell is differentiated into a dendritic cell.

41. (Previously presented) The method of claim 39, wherein the incubated transduced stem cell is differentiated into a granulocyte.
42. (Previously presented) The method of claim 39, wherein the incubated transduced stem cell is differentiated into an erythroid cell.
43. (Previously presented) The method of claim 39, wherein the incubated transduced stem cell is differentiated into a monocyte.
44. (Previously presented) The method of claim 39, wherein the incubated transduced stem cell is differentiated into a B cell.
45. (Previously presented) The method of claim 39, wherein the incubated transduced stem cell is differentiated into a T lymphocyte.